CSCI111 Final Exam Prep

Topics

Everything through the second exam

Dictionaries
- creating, accessing, processing
- common, useful methods
- similarities, differences to lists

Object-oriented programming
- Benefits, use
- Developing classes
  - instance variables
  - Representing new data types
  - `__init__`
  - `__str__`
  - `__eq__, __lt__`
  - other methods, helper methods
- Terminology (not already mentioned above)
  - Instance of (as opposed to instance variables)
- Using defined classes

Search techniques
- Linear search
- Binary search

Lists
- (not covered deeply on Exam 2)
- 2D lists – accessing, processing

What is Computer Science? What are fields in CS?

What I expect from you on exam:

- To know the Python/programming terminology
    - E.g., names for types of statements
- To know the appropriate Linux commands and how to use them, given a typical situation from lab
- To be able to read a program and describe what the program is doing at a high level in plain English (comments), trace through the program's execution given input (control flow), and say what the program outputs
- To be able to write a program (given an algorithm or creating your own algorithm, given a problem)
    - Syntax must be very close to correct (correct keywords, indentation, special characters, variable naming, operations)
    - Since the exam is on paper, there is some leniency—you may mark it up somehow if, for example, something should be indented
- Greater emphasis on ability to read and write code

Suggestions on how to prepare:

- Practice programming on paper and verify program in Python. (Use problems from class, labs, or textbook.)
    - What types of problems should you focus on?
- Practice reading through programs, tracing through them, and saying what the output should be
- Read through slides for vocabulary and non-problem-solving exercises
- Review Linux commands